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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/260,903	03/02/1999	TOSHIFUMI SATO	P/1905-80	7057

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EXAMINER

GANTT, ALAN T

ART UNIT	PAPER NUMBER
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2684

DATE MAILED: 02/27/2004

18

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/260,903

Applicant(s)

SATO, TOSHIFUMI2

Examiner

Alan T. Gantt

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11, 13 and 15 is/are allowed.
- 6) ☒ Claim(s) 1-4, 12 and 14 is/are rejected.
- 7) ☒ Claim(s) 5-10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 12/10/03 have been fully considered. Applicant has amended independent claims 1, 12, and 14 such that N pilot channels now require N to be a positive integer greater than 1 and M data channels with N being a positive integer greater than 1 where prior all N and M had to be was a positive integer. This revision overcomes the Nakano reference. Kotzin et al. is introduced to meet the amended claim language.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 12, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Kotzin et al.

Regarding claim 1, Kotzin teaches a method and apparatus for controlling transmit diversity that utilizes multiple pilot channels with different orthogonal codes within a given sector for use with a plurality of traffic channels (i.e. data channels) [col. 2, lines 43-59]. Kotzin meets the following limitations:

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- N (N is a positive integer greater than 1) pilot channels for transmitting reference signals whose transmission signals are known in advance; (col. 11, lines 16-33) and
- M (M is a positive integer greater than 1) data channels for transmitting information (col. 8, lines 53-67 [traffic channels {plural}])
- Wherein each of said M data channels is made to dynamically correspond to one or a plurality of said N pilot channels. (col. 2, lines 25-42 and col. 11, lines 16-33)

Regarding claim 2, Kotzin meets the limitation: A system according to claim 1, wherein each of the N data channels is made to correspond to one of M pilot channels that go through the same path. (col. 8, lines 53-67)

Regarding claim 3, Kotzin meets the limitation: A system according to claim 1, wherein said pilot channel is used for coherent detection of at least said data channel to which it corresponds. (col. 7, lines 4-37 and col. 11, lines 15-33)

Regarding claim 12, Kotzin teaches a method and apparatus for controlling transmit diversity that utilizes multiple pilot channels with different orthogonal codes within a given sector for use with a plurality of traffic channels (i.e. data channels) [col. 2, lines 43-59]. Kotzin meets the following limitations:

- N (N is a positive integer greater than 1) reference signals whose transmission signals are known in advance by using N pilot channels; (col. 11, lines 16-33)
- Transmitting M (M is a positive integer greater than 1) pieces of information by using M data channels; (col. 8, lines 53-67 [traffic channels {plural}])
- Making each of said M data channels dynamically correspond to one or a plurality of said N pilot channels. (col. 2, lines 25-42 and col. 11, lines 16-33)

Regarding claim 14, Kotzin teaches a method and apparatus for controlling transmit diversity that utilizes multiple pilot channels with different orthogonal codes within a given sector for use with a plurality of traffic channels (i.e. data channels) [col. 2, lines 43-59]. Kotzin meets the following limitations:

- N (N is a positive integer greater than 1) pilot channels for transmitting reference signals whose transmission signals are known in advance; (col. 11, lines 16-33)
- M (M is a positive integer greater than 1) data channels for transmitting information; (col. 8, lines 53-67 [traffic channels {plural}])
- Wherein each of said M data channels is made to dynamically correspond to one or a plurality of said N pilot channels. (col. 2, lines 25-42 and col. 11, lines 16-33)

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over ^{Kotzin}~~Nakano~~ et al.

Regarding claim 4, Kotzin is silent on using the pilot channel for coherent detection of at least the data channel to which the pilot channel corresponds.

However, the examiner takes Official Notice that it is well known to utilize the pilot channel for transmission power control as related to the traffic channel and that it would have been obvious to modify Kotzin to include transmission power control so that regardless of the sector the data channel would provide a usable signal to the mobile terminal.

Allowable Subject Matter

6. Claims 11, 13 and 15 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The antenna aspects of the invention where the selecting of optimum patterns of the directivity patterns and the selecting of one pilot channel for each directivity pattern used for the data channel was neither found, suggested, nor made evident by the prior art.

7. Claims 5-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

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Regarding claims 5-10, the aspects of these dependent claims (correspondence between pilot channel and data channel being newly determined immediately before each and every time data channel, this correspondence can be changed during use of data channel, channels used for transmission reception with the same antenna directivity are channels that go through the same transmission path etc.) is used were neither found, suggested, nor made evident by the prior art.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication from the examiner should be addressed to Alan Gantt at telephone number (703) 305-0077. The examiner can normally be reached between 9:30 AM and 6 PM within the Eastern Time Zone. The group FAX number is (703) 872-9306.

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Any inquiry of a general nature or relating to this application should be directed to the group receptionist at telephone number (703) 305-4700.

Alan T. Gantt

Alan T. Gantt

February 21, 2004

Nay Maung

NAY MAUNG
SUPERVISORY PATENT EXAMINER